

6450-01-P

DEPARTMENT OF ENERGY

10 CFR Part 431

[Docket Number EERE–2011-BP-TP-00024]

RIN: 1904-AC46

Alternative Efficiency Determination Methods and Alternate Rating Methods

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Notice of availability of request for information (RFI).

SUMMARY: The U.S. Department of Energy (DOE) seeks information and data related to the use of computer simulations, mathematical methods, and other alternative methods of determining the efficiency of certain types of consumer products and commercial and industrial equipment. DOE intends to use the information and data collected in this RFI to better inform the proposals for a rulemaking addressing alternative efficiency determination methods (AEDM) and alternate rating methods (ARM) for these types of covered products.

DATES: Written comments and information are requested on or before **[INSERT DATE 30 DAYS FOLLOWING PUBLICATION IN FEDERAL REGISTER]**.

ADDRESSES: Interested persons are encouraged to submit comments using the Federal eRulemaking Portal at <http://www.regulations.gov>. Follow the instructions for submitting comments. Alternatively, interested persons may submit comments, identified by docket number EERE-2011-BT-TP-0024, by any of the following methods:

- E-mail: to AED/ARM-2011-TP-0024@ee.doe.gov. Include EERE-2011-BT-TP-0024 in the subject line of the message.
- Mail: Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, Mailstop EE-2J, Revisions to Energy Efficiency Enforcement Regulations, EERE-2011-BT-TP-0024, 1000 Independence Avenue, SW., Washington, DC 20585- 0121. Phone: (202) 586-2945. Please submit one signed paper original.
- Hand Delivery/Courier: Ms. Brenda Edwards, U.S. Department of Energy, Building Technologies Program, 6th Floor, 950 L'Enfant Plaza, SW., Washington, DC 20024. Phone: (202) 586-2945. Please submit one signed paper original.

Instructions: All submissions received must include the agency name and docket number or RIN for this rulemaking.

Docket: For access to the docket to read background documents, or comments received, go to the Federal eRulemaking Portal at <http://www.regulations.gov>.

FOR FURTHER INFORMATION CONTACT: Direct requests for additional information may be sent to Ms. Ashley Armstrong, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Program, EE-2J, 1000 Independence Avenue,

SW, Washington, DC 20585–0121. Telephone: (202) 586–6590. E-mail:

Ashley.Armstrong@ee.doe.gov, and Ms. Laura Barhydt, U.S. Department of Energy, Office of the General Counsel, Forrestal Building, GC–32, 1000 Independence Avenue, SW, Washington, DC 20585. Telephone: (202) 287–6122. E-mail: Laura.Barhydt@hq.doe.gov.

BACKGROUND: As part of the testing procedures for certain consumer products and commercial and industrial equipment (hereafter referred to collectively as covered products), DOE allows the use of AEDMs or ARMs, once validated, in lieu of actual testing for the purposes of determining the certified ratings for basic models. AEDMs and ARMs are derived from mathematical models and engineering principles that govern the energy efficiency and energy consumption characteristics of a basic model. Where authorized by regulation, AEDMs and ARMs enable manufacturers to rate their basic models using estimated energy use or energy efficiency results. DOE has authorized the use of AEDMs or ARMs for covered products that are difficult or expensive to test, thereby reducing the testing burden for manufacturers of expensive or highly custom basic models. Currently, DOE allows the use of alternative rating procedures, once specified development and validation criteria are met, for commercial heating, ventilation, and air conditioning (HVAC) equipment; commercial water heaters; electric motors; distribution transformers; and residential split system central air conditioners and heat pumps.

DOE’s existing requirements for the use of an AEDM include substantiation of the alternative method, as well as subsequent verification. Substantiation of the AEDM requires a manufacturer to test a specified number of basic models and then compare those test results with values derived by an AEDM. Tested values and derived values for each individual unit must be

within a specified percentage of each other. The overall averages for the tested and AEDM values must also be within a specified percentage of each other. The number of units tested and the percentage correlations are product specific (see 10 CFR 429.70). Verification of an AEDM requires a manufacturer to test a specified number of basic models with the substantiated AEDM. No prior approval is required before the AEDM can be used to certify products. With respect to subsequent verification, if a manufacturer chooses to use an AEDM, it must make information available to DOE upon request for verification of the AEDM, including but not limited to: the mathematical model, complete test data, and the calculations used to determine efficiency. Additionally, if requested by DOE, a manufacturer must perform simulations, analysis, or unit testing to verify the AEDM.

While serving the same purpose as AEDMs, ARMs differ in that they are specific to residential central air conditioners and heat pumps and require approval from DOE before they can be used to certify products. In order to receive approval for an ARM, a manufacturer must submit test data for four mixed systems of central air conditioners and heat pumps along with complete documentation of the ARM and products as specified in 10 CFR 429.70(e)(2). Similar to the process for AEDM verification, the manufacturer may be required to conduct further analysis, including additional simulations, if requested by DOE.

DOE is publishing this RFI to seek information regarding the current procedures being employed by industry to rate low-volume, custom-built-equipment and to better understand how DOE's current AEDM and ARM procedures are being applied. At this time, DOE is considering expanding the application of AEDMs to other types of covered commercial equipment, such as

commercial refrigeration equipment and automatic commercial ice makers. Additionally, DOE plans to consider whether revisions to the procedures governing the substantiation and subsequent verification of AEDMs and ARMs are appropriate based on the data and comments received in response to this RFI.

ISSUES ON WHICH DOE SEEKS COMMENT AND INFORMATION:

General:

1. What types of covered products necessitate or warrant the use of an AEDM or ARM?
2. What are the current methods employed by manufacturers to rate commercial and certain low-volume, built-to-order equipment?
3. Should DOE have two different types of alternative rating procedures? Are the distinctions between ARMs and AEDMs warranted?
4. Could an AEDM or ARM be used across multiple product classes or product types? Additionally, if an AEDM is used across product classes or types, should the amount of verification tests performed on the AEDM be dependent on the number of product classes/types to which it is applied?
5. Should DOE disallow the use of ARMs or AEDMs for manufacturers who have been found in non-compliance with an applicable conservation standard and/or certification requirement? Further, should DOE find all models rated using a specific ARM or AEDM in noncompliance as a result of a determination of noncompliance of one basic model rated with that specific ARM or AEDM?
6. What are the advantages and/or disadvantages of DOE approval of an AEDM or ARM prior to use as opposed to maintaining and providing data upon request?

7. Should DOE consider expanding the ARM provisions to allow for substitution of different system components (*e.g.*, condensers) instead of just applying to coils for residential split system air conditioners and heat pumps? Additionally, should manufacturers be allowed to use ARMs for other residential central air conditioner and heat pump product classes?
8. Should voluntary industry certification programs (VICP) be involved in the development, substantiation, and verification of AEDMs and ARMs, and, if so, to what extent?
9. What, if any, other changes to current AEDM and ARM regulations should DOE consider that would reduce testing burdens while still ensuring that covered products are appropriately rated and certified as compliant with applicable standards?

Substantiation:

10. The recently issued certification, compliance, and enforcement final rule added a requirement for re-substantiation of an AEDM or ARM as a result of a change in standard or test procedure. 76 FR 12492 (March 7, 2011). What are the advantages and/or disadvantages of periodic re-substantiation of an ARM or AEDM? If re-substantiation is not necessary, please provide supporting data and specify the amount of time the AEDM or ARM should continue to be valid without further substantiation.
11. If the current number of units (sample size) that must be tested to substantiate the AEDM or the ARM is either unwarranted or inadequate, on a product-specific basis, what would be an appropriate sample size? (Please provide supporting data.) Should there be certain types of basic models that must be used in the substantiation process (*e.g.*, the highest selling basic model)?

12. DOE seeks product specific information on the appropriate tolerances for substantiation of AEDMs and ARMs. Should these tolerances vary by product? Should these tolerances be aligned with the certification tolerances for a given covered product?
13. Would it be feasible for DOE to create standardized tolerances across all products or products with similar characteristics to which AEDMs or ARMs may apply (*e.g.*, refrigeration products)?
14. Are two sets of comparison testing for substantiation of the AEDM for commercial HVAC and water heater equipment warranted? Would one set of testing be sufficient?

Verification

15. DOE requests information on the feasibility and necessity of approval of AEDMs before use by the manufacturer.
16. What criteria should DOE use to select AEDM/ARMs for verification?
17. When and how frequently should DOE verify AEDM/ARMs?
18. What criteria should be used to verify AEDM/ARMs? DOE welcomes specific comment on the following as well as comment on any other applicable criteria:
 - Tolerances; and
 - Number of basic models per comparison.

PURPOSE: The purpose of this RFI is to solicit feedback from industry, manufacturers, academia, consumer groups, efficiency advocates, government agencies, and other stakeholders on issues related to AEDMs and ARMs. DOE is specifically interested in information and sources of data related to covered products and equipment that could be used in formulating a

methodology regarding creation of a standardized procedure for substantiation and verification, where applicable. This is solely a request for information and not a Funding Opportunity Announcement (FOA).

DISCLAIMER AND IMPORTANT NOTES: This RFI does not constitute a formal solicitation for proposals or abstracts. Your response to this notice will be treated as information only. In accordance with FAR 15.201(e), responses to this notice are not offers and cannot be accepted by the Government to form a binding contract. DOE will not provide reimbursement for costs incurred in responding to this RFI. Commenters are advised that DOE is under no obligation to acknowledge receipt of the information received or provide feedback to commenters with respect to any information submitted under this RFI. Responses to this RFI do not bind DOE to any further actions related to this topic.

PROPRIETARY INFORMATION: Patentable ideas, trade secrets, and proprietary or confidential commercial or financial information, may be included in responses to this RFI. The use and disclosure of such data may be restricted, provided the commenter includes the following legend on the first page of the comment and specifies the pages of the comment which are to be restricted:

“The data contained in pages _____ of this comment have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for information and program planning purposes. This restriction does not limit the

government's right to use or disclose data obtained without restriction from any source, including the commenter, consistent with applicable law.”

To protect such data, each line or paragraph on the pages containing such data must be specifically identified and marked with a legend similar to the following:

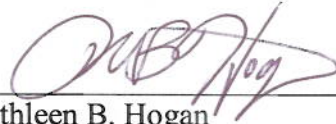
“The following contains proprietary information that (name of commenter) requests not be released to persons outside the Government, except for purposes of review and evaluation.”

EVALUATION AND ADMINISTRATION BY FEDERAL AND NON-FEDERAL

PERSONNEL: Government civil servant employees are subject to the non-disclosure obligations of a felony criminal statute, the Trade Secrets Act, 18 USC 1905. The Government may seek the advice of qualified non-Federal personnel. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The commenter, by submitting its response, consents to DOE providing its response to non-Federal parties.

Non-Federal parties given access to responses must be subject to an appropriate obligation of confidentiality prior to being given the access. Comments may be reviewed by support contractors and private consultants.

Issued in Washington, DC, on April 8, 2011.

A handwritten signature in black ink, appearing to read 'KB Hogan', written over a horizontal line.

Kathleen B. Hogan
Deputy Assistant Secretary for Energy Efficiency
Office of Technology Development
Energy Efficiency and Renewable Energy